non-guided biopsy.[7] They reported one complication (bleeding into the abdominal cavity) in the group that had guided biopsy and seven in the group that had non-guided biopsy. Four of the complications in the group that had non-guided biopsy, however, were asymptomatic and were disclosed only by follow up ultrasonography. The other problems were transient early hypotension in two patients and an ileus that spontaneously resolved in another.

Diagnostic yield was also assessed in the National Audit in 1991. Where ultrasonography before biopsy showed one or more focal lesions non-guided biopsy was successful in confirming the final diagnosis in only one third of patients, whereas guided biopsy confirmed the diagnosis in nearly two thirds of patients. The audit also suggested that if the clinical diagnosis before the biopsy was of cancer there was a greater chance of verifying this with a guided biopsy even if there was no focal lesion. For non-malignant diffuse disease there was no difference between the two procedures in the ability to confirm diagnoses.

Cost and convenience must also be considered. Guided biopsies need greater resources, both of equipment and of trained staff. The biopsy is usually done in a radiology department, which means that the patient would be waiting to return to a ward without being observed during the time when at least 60% of complications occur.[3] Doctors in some centres identify the optimal site of puncture by ultrasonography but perform the biopsy in the ward.

What recommendations can be made? In patients with diffuse non- malignant disease guided biopsy has no diagnostic advantage and there is no firm evidence that the procedure is safer. When malignancy is suspected before the biopsy is performed a guided biopsy should be considered. When a focal lesion has already been shown the biopsy should be guided. The ideal biopsy may be one that is performed in the ward by the gastroenterologist using ultrasonographic guidance. For most patients this is currently not an option owing to the lack of ultrasound machines and trained clinicians.

To establish firmer guidelines a randomised controlled trial of guided versus non-guided biopsy in patients with diffuse disease might be considered. Since the mortality is so low, however, a large number of biopsies—we estimate 10 000—would be needed to give sufficient statistical power. This is probably not feasible. Our recommended alternative is a national scheme for reporting mortality and morbidity after liver biopsy, perhaps as part of the national confidential inquiry into perioperative deaths.

GUY VAUTIER
Registrar in gastroenterology
BRIAN SCOTT
Consultant physician

Department of Medicine,
County Hospital,
Lincoln LN2 5QY

DAVID JENKINS
Reader in histopathology

Department of Histopathology,
University Hospital,
Nottingham NG7 2UH

1 Sherlock S. Aspiration liver biopsy, technique and diagnostic application. *Lancet* 1945;ii: 397-401.
2 Chuah SY, Moody GA, Wicks ACB, Mayberry JF. A nationwide survey of liver biopsy. Is there a need to increase resources, manpower and training? *Hepato-Gastroenterol* 1994;41:4-8.
3 Piccinino F, Sagnelli E, Pasquale G, Giusti G. Complications following percutaneous liver biopsy, a multicentre retrospective study on 68,276 biopsies. *J Hepatol* 1986;2:165-73.
4 McGill DB, Rakela J, Zinmeister AR, Ott BJ. A 21 year experience with major hemorrhage after percutaneous liver biopsy. *Gastroenterology* 1990;99:1396-400.
5 Sugano S, Sumino Y, Hatori T, Mizugami H, Kawafune T, Abei T. Incidence of ultrasound detected intrahepatic hematomas due to Tru-cut needle liver biopsy. *Dig Dis Sci* 1991;36: 1229-33.
6 Gilmore IT, Burroughs A, Murray-Lyon IM, Williams R, Jenkins D, Hopkins A. Indications, methods and outcome of percutaneous liver biopsy in England and Wales. An audit by the British Society of Gastroenterology and the Royal College of Physicians (London). *Gut* (in press).
7 Papini E, Pacella CM, Rossi Z, Bizzarri G, Fabbrini R, Nardi F, *et al.* A randomised trial of ultrasound guided anterior subcostal liver biopsy versus the conventional Menghini technique. *J Hepatol* 1991;13:291-7.

Gift authorship: a poisoned chalice?

Not usually, but it devalues the coinage of scientific publication

See pp 1459, 1482

The fruits of authorship are usually considered to be sweet. Authorship of a scientific paper leads to grants, jobs, and reputations. This explains why many people accept the "gift" of authorship on papers to which they have contributed nothing intellectually. And, as with all presents, the givers often derive something too. They may use authorship to repay kindnesses, in exchange for authorship of another paper, or—very commonly—to credit their head of department and in so doing gain a stamp of authority on their work. Last week's revelations questioning the scientific validity of papers in the *British Journal of Obstetrics and Gynaecology* (see p 0000)[1] show how the gift can turn sour. Perhaps this scandal will finally undermine gift authorship. At the very least it should make researchers think hard about the responsibilities that come with putting their names on papers.

The full details of the case, at St George's Hospital, London, have yet to emerge, but we know that an inquiry has found no evidence to support the findings of two papers written by Mr Malcolm Pearce and published in the August issue of the *British Journal of Obstetrics and Gynaecology*. Unfortunately the editor of the journal, Professor Geoffrey Chamberlain, is also a coauthor of one of the papers. We know nothing about Professor Chamberlain's role in the work, but he was quoted by a newspaper as saying, "The head of department's name is always put on reports out of politeness. I was not part of this work, but I have always trusted Mr Pearce."[2]

The fact that "everybody does it" does not make it right, but Professor Chamberlain is correct: heads of department often put their names on papers, irrespective of their input into the work. In this week's issue Goodman shows that in his study of 12 papers and their 84 authors six heads of department were included as authors without fulfilling any of the standard criteria for authorship (p 1482).[3] Similarly, Shapiro *et al* found in the United States that on 184 papers with four or more authors 11 heads of department were included, although they had contributed nothing to the work.[4]

Ironically, it was just such a predicament as Professor Chamberlain seems to find himself in that prompted the production of a standard set of criteria for authorship in 1985. In the early 1980s John Darsee falsified studies at Emory and Harvard Universities; many of the papers that were subsequently retracted included as coauthors prominent heads of department. These people had not fabricated data, but they had allowed their names to appear on work which they knew too little about.[5] Partly as a result of this

episode the International Committee of Journal Editors (the Vancouver group) drew up criteria for authorship, based on the concept that "each author should have participated sufficiently in the work to take public responsibility for the content."[6]

Editors, readers, funding agencies, and society generally expect someone to take responsibility for work that comes into the public domain: they want someone to defend it, to debate it, to admit mistakes if necessary. As Shapiro *et al* say, the signing of scientific papers by their authors "confers credit and denotes responsibility."[4] The Vancouver guidelines try to define the activities that allow an author to take credit and satisfy readers' demands for responsibility. They suggest that authorship should be based only on substantial contributions to "(*a*) conception and design or analysis and interpretation of data; (*b*) drafting the article or revising it critically for important intellectual content, and (*c*) final approval of the version to be published."[7] The guidelines explicitly reject fund raising, collecting data, and supervising the research group as justifications for authorship, though these and other contributions should be acknowledged. The guidelines do, however, make it clear that between them the authors must take responsibility for all aspects of the work: "any part of an article critical to its main conclusions must be the responsibility of at least one author."

The Vancouver guidelines say nothing about the opposite problem: that of the researcher who has contributed to the work but whose name is left off the paper. Arguments about who should be an author can often be acrimonious, and for this reason guidelines produced by the Swedish Medical Association and its journal recommend that researchers should decide who should be an author at the outset of the work and not when the paper is being written.

Although many journals have incorporated the Vancouver criteria into their guidance to authors, many authors ignore them. In Goodman's study only 32 authors out of 84 definitely fulfilled the Vancouver criteria for authorship and 19 possibly did so.[3] Shapiro *et al* found that 62 of their 1176 authors had made no substantial contributions to six major tasks (conception, design, analysis and interpretation, and writing and revision plus collecting data and providing resources), while a further 206 contributed only by providing resources or collecting data.[4] The cavalier approach to authorship suggested by these findings is supported by our own experience at the *BMJ*. From the beginning of this year we have been asking authors of accepted papers to confirm that they meet the Vancouver criteria: this request has elicited remarkably few amendments to lists of authors. This silence contrasts with the large response to our conflict of interest statement[8]—which has has clearly made people think about possible conflicts of interest in a new way.[9]

One lesson might be that a set of guidelines drawn up by editors will not influence the behaviour of authors. Indeed, one of the groups in the recently formed peer review research network[10] is studying what authors think authorship should mean.* Neverthless, it would be surprising—and disturbing—if authors were to come up with criteria that did not acknowledge the importance of the activities at the heart of the Vancouver criteria: conception, design, analysis and intepretation of the work, and knowledge of how it is written up.

No one should dispute that readers have a right to expect authors to be able to vouch for their work, and there are other ways of acknowledging important contributions (such as the fund raising role of a head of department). Perhaps most importantly, those who have really done the work have an interest in seeing that their role is not devalued by the inclusion of many who have done little. Finally, the events at St George's Hospital should remind "authors" that signing their names to something they can't defend is not in their best interests either.

JANE SMITH
Deputy editor

BMJ
London WC1H 9JR

* This study is being coordinated by Professor Raj Bhopal, Division of Epidemiology and Public Health Medicine, University of Newcastle upon Tyne, Newcastle upon Tyne NE2 4HH, 0191 222 6000.

1 Court C. Consultant suspended after research. *BMJ* 1994;**309**:1459.
2 Revill J. Woman in hospital "baby hoax" inquiry disappears. *Evening Standard* 1994; Nov 17:2.
3 Goodman N. Survey of fulfilment of criteria for authorship in published medical research. *BMJ* 1994;**309**:1482.
4 Shapiro DW, Wenger NS, Shapiro, MF. The contributions of authors to multiauthored biomedical research papers. *JAMA* 1994;**271**:438-42.
5 Lock S. Research misconduct: a resume of recent events. In: Lock S, Wells F, eds. *Fraud and misconduct in medical research.* London: BMJ Publishing Group, 1994:5-24.
6 International Committee of Medical Journal Editors. Guidelines on authorship *BMJ* 1985;**291**:722.
7 International Committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomedical journals. *JAMA* 1993;**269**:2282-6.
8 Smith R. Conflicts of interest and the *BMJ*. *BMJ* 1994;**308**:4-5.
9 Brandon S. Conflicts of interest:author considers his conflict of interest. *BMJ* 1994;**308**;1301.
10 Smith R. Promoting research into peer review. *BMJ* 1994;**309**:143-4.

Clinical guidelines in 1994

Let's be careful out there

Clinical guidelines based on the systematically analysed results of research and carefully introduced to doctors can improve clinical practice and outcomes. This is the main message of the current issue of *Effective Health Care,*[1] which is based largely on an update of Grimshaw and Russell's landmark review[2] and now covers 91 rigorous evaluations of the use of guidelines.

Most of the guidelines in Grimshaw and Russell's review were not based on systematically reviewed evidence; however, it is a reasonable assumption that guidelines that are accurately based on evidence of effective treatment will benefit patients more than guidelines developed in an ad hoc manner or through informal consensus. The patchy nature of evidence, even in the best researched subjects in clinical practice, means that all guidelines in the conceivable future will be hybrid documents, with recommendations based on varying degrees of evidence and consensus. Good guidelines will clearly label recommendations according to strength of supporting evidence.

Effective Health Care highlights those factors that increase the likelihood that doctors will adhere to guidelines—for example, active educational interventions to make doctors aware of the content of guidelines and patient specific reminders to prompt doctors to use them. It challenges the notion that "ownership" by doctors is a prerequisite for adherence in practice. Using Hurwitz's incisive analysis of the legal background to guidelines,[3] it is